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card-sorting experiment, and was performed on thirty-four subjects, half of whom were men and half women.

From his results he concludes that interference occurs for all subjects; but it decreases with practice, and finally the reactions to both associations become so automatic that either may be called up without the appearance of the other. As regards his real problem, the author finds great individual variations in the rate of improvement, or in the actual time records. He finds no significant sex differences in the rate of improvement or in the absolute time records. The women show great variability, however, in the recurrence of the old or wrong associations.

This paper seems to be too general in its form and in the method of collecting data to be of value. For example, the author shows a positive correlation between adaptability and the traits of individuality, independence and originality, and the measure of these latter is obtained by an averaging of the opinions of twelve friends of the subjects expressed in numerical terms. The author includes several figures, but these contain so many curves that it is almost impossible to follow out any single one of them.

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Reaction to Multiple Stimuli. By JOHN WELHOFF TODD, Ph. D. Arch. of Psychol., No. 25. (Columbia Cont. to Phil. and Psychol. Vol. XXI, No. 3.) New York, 1912. iii + 65 pp.

The author studied reaction-times to multiple stimuli presented simultaneously,—light, sound, and an electric shock being used and the time recorded with a Hipp chronoscope. These stimuli were presented singly, in pairs, or in groups of all three, and it was found that presenting the stimuli in pairs resulted in a shorter reaction-time than that of either stimulus presented singly. If all three stimuli were given simultaneously, a still further reduction resulted. It was ascertained that the reaction-time to sound was usually the most rapid, that to light the least rapid; and it was further found that light in combination with either of the other stimuli had the least facilitative effect, while sound had the greatest.

A certain group of reactions were taken to discover if the subject could pick out one stimulus from the complex and react to it; but it was found that this did not give different results from those of the same complex as a whole. An experimental arrangement was then used for reaction to successive stimuli with varying intervals between them, the reagent always reacting to the last one. The results show that this arrangement increases the time of reaction, but this lengthening of the reaction-time decreases as the interval is shortened.

This latter phenomenon is explained by the author in terms of inhibition. The reduction of reaction-time to multiple stimuli is explained in terms of summation of stimuli which can then cross the synapses between the neurones more rapidly than the single stimulus. This is considered to be a further proof of the validity of Cattell's view that the reaction event is a cerebral reflex, and the author cites similar reinforcements in the general field of reflex movement.

This is a very suggestive study, both in regard to the data which it presents in a comparatively unworked field, and as regards the problems which it raises for further research.

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